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 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
 LYNDON B. JOHNSON SPACE CENTER  
 EARTH RESOURCES LABORATORY  
 MISSISSIPPI TEST FACILITY  
 ST. LOUIS, MISSISSIPPI 39520

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REPLY TO  
 ATTN OF: GE

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May 8, 1973

TO: NASA Headquarters  
 ER/ERTS Program Manager  
 Attn: Mr. Stoney

FROM: GE/Robert H. Cartmill

SUBJECT: Type I Progress Report for ERTS Project 9665

This report summarizes activities and progress on the subject project  
 from April 1, 1973, through April 29, 1973.

- A. Evaluation of satellite remote sensing and automatic data  
 techniques for characterization of wetlands and marshlands.
- B. NA 323
- C. Progress of the investigation is still being impeded by a  
 lack of cloud free coverage of the marsh areas. No pass in  
 this reporting period was cloud free, and to date no data have  
 been available for the southern ten percent of the study area.

The precision imagery ordered in November 1972, of the October 1,  
 1972, pass has not yet been received.

An additional difficulty has been encountered in processing the  
 October 1, 1972, pass. We have notices that in Channel 3 of the  
 MSS data in certain sections of data every sixth scan line has  
 data values which are on the average about 8 counts smaller than  
 the neighboring lines. This makes processing the data by use of  
 the LARS pattern recognition programs very difficult because it  
 is difficult to obtain truly representative samples of given  
 materials. Also in the areas where this banding effect occurs,  
 the computerized classification yields erroneous classifications  
 for the anomalous lines.

- D. The difficulties described above have prevented a satisfactory  
 classification of the October 1, 1972, pass. However, the  
 cause of the banding problem has been discussed with the data  
 processing personnel of GSFC. It is believed to be caused by  
 maladjustment of the ground receiving tape recorder. Since  
 there does not appear to be any way of correcting this data, I

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E73-10576) EVALUATION OF SATELLITE  
 REMOTE SENSING AND AUTOMATIC DATA  
 TECHNIQUES FOR CHARACTERIZATION OF  
 WETLANDS AND MARSHLANDS (Mississippi  
 Test Facility)

have decided to attempt a three channel classification of this pass. This classification should be completed by the end of the next reporting period.

Aircraft data (RC-8 imagery and MSS tapes) from the January 15, 1973, flight over the study area have been received. The imagery has been plotted and indexed. The MSS data have been screened for quality and the 6 function channels have been recorded on computer compatible tapes. It is anticipated that a computerized classification of the area will be completed by the end of June, 1973.

- E. No significant results were obtained during this reporting period.
- F. No published articles or papers, pre-prints, in-house reports, or talks were released during this reporting period.
- G. Recommendations concerning practical changes are as follows:  
  
Table 4-2. Earth Resources Vocabulary of the Data Users Handbook should retain the work "Swamp" as a separate word. The words "(use Marsh)" should be deleted. There is a significant and easily definable difference between the two.
- H. No changes in the standing order forms have been submitted.
- I. ERTS Image Description Form dated March 22, 1973, was submitted during the reporting period.
- J. A data request form dated March 30, 1973, was submitted during the reporting period.



R. H. Cartmill  
Principal Investigator

cc: GSFC 430/Richard G. Stonesifer  
GSFC 245/Robert Phillips  
GSFC 650/Stanley C. Freden  
GA/R. O. Piland

GE/RHCARTMILL:jas 5/8/73